Environment and Natural Resources Trust Fund
2017 Request for Proposals (RFP)

Project Title: **ENRTF ID: 103-C**

North Minneapolis Blooming Alleys: Resilient Neighborhoods, Clean Water

Category: C. Environmental Education

Total Project Budget: $ 313,289

Proposed Project Time Period for the Funding Requested: 4 Years, July 2017 - June 2021

Summary:

We improve water quality, create habitat, and transform alleys into usable community space by engaging North Minneapolis residents and students to install and monitor raingardens, permeable pavement, and native plantings.

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Location

Region: Metro

County Name: Hennepin

City / Township: Minneapolis; Robbinsdale

Alternate Text for Visual:

Three proposed activities (engagement & installation, monitoring, and Project Lead the Way education), why these are our focus, and what the outcomes will be. Photos show before/after alley examples, project map, and engagement.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____%

I. PROJECT STATEMENT

This neighborhood-led project engages North Minneapolis residents to install raingardens, permeable pavement, and native plants immediately adjacent to alleyways to build community resilience, improve Crystal Lake, address local flooding, and create pollinator and pedestrian pathways. We'll implement a before and after paired watershed study along a test and control alley to measure impact, inform decision makers, and influence alley infrastructure policy (to ensure adequate data is obtained we've requested a 4 year grant). Partners work with students at Patrick Henry High School (PHHS) to integrate applied engineering focused on green infrastructure and citizen-science into their Project Lead the Way program. Building on data-driven, citizen-based methodology we leverage social capital, local leadership and technical expertise to maximize ecological and community benefits. This approach has been effective in SW Minneapolis. We aim to adapt the program in the Cleveland Neighborhood of North Minneapolis to engage lower income, racially diverse residents (18% below poverty line, 44% residents of color; PHHS 92% students of color, 85% free /reduced lunch). We rely on neighbor-to-neighbor outreach and build on prior community raingarden projects and an alley demonstration (2016 install) to engage property owners along 5 blocks to install 40-60 stormwater best management practices (BMPs) in driveways and backyards adjacent to alleys (based on previous experience: 6-10 participants/block, 1-3 BMPs/house depending on opportunity & interest). Based on modeling we expect annual reductions of: 850,000 gallons runoff, 2.5 lbs Phosphorus, 500 lbs Sediment. Working with entire blocks reduces cost, creates natural pathways for people & pollinators, strengthens social fabric and improves aesthetics & adoption.

Cleveland Neighborhood drains to Crystal Lake in Robbinsdale, which is impaired for excess nutrients. The TMDL study details a necessary nutrient reduction of 72% and designates reduction of Phosphorus from urban runoff by retrofitting stormwater BMPs as having the greatest impact. Additionally, Cleveland lies in Flood Area Five (Minneapolis 1997 Flood Program). Heavy rains overflow storm sewers leading to public and private property flooding, to the point of impassable streets. We build on a City capital project (2011) along 37th Ave N to address this issue. Our focus is 35th Ave N; this area continually experiences severe flooding. Metro Blooms' analysis of other subwatersheds that have implemented community -scale projects, including ENRTF supported Citizen-Based Approach to Stormwater Management, indicates that on a typical urban lot, the majority (>60%) and most polluted runoff drains to the alley. Stormwater retrofits on residential property adjacent to alleyways allows us to capture up to 90% of runoff and associated pollutants during a 1.25" rain event (modeling of similar projects). Engaging private property owners to mitigate runoff at the source is part of a comprehensive plan to eliminate area flooding, improve water quality and habitat, and enhance livability.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: *Participant engagement & installation of raingardens, permeable pavement, and native plantings (includes administration & coordination)* **Budget: $229,000**

Cleveland Neighborhood Association (CNA) engages Alley Captains on 5 blocks who invite their neighbors to an Alley "Party" to learn about the project and discuss entire alley and individual property re-design (goal: 30% participation/alley). Each participant has a site consultation with Metro Blooms (MB). MB creates individual stormwater management plans detailing opportunities for runoff capture and habitat. MB creates overall alley plans to show how each property fits into a broader alley system. Residents contribute 5-10% of cost (may be in-kind) and sign a maintenance agreement with CNA. MB works with subcontractors to install raingardens, native plantings, permeable pavement, and gutters (to convey runoff to practices) and lead maintenance trainings. Permeable pavement, while more expensive than raingardens, has been very effective in similar projects and is often the only way to capture runoff from driveways & garages. It reduces need for de-icing salt, which causes chloride impairments, as water soaks into the pavement during winter thaws, rather than re-freezing.

Outcome	Completion Date
1. Identify 5 alleys for implementation based on water quality/flooding impact and interest	*Spring 2018*
2. Alley Outreach & Training Events (5-10 over 3 years); 150-250 directly engaged	*June 2020*

3. Stormwater Management Plan for each property (30-50) and overall plan for each alley	*December 2019*
4. 40-60 stormwater BMPs installed at 30-50 properties (estimate 20 raingardens, 25 permeable pavement systems, 15 native plantings). Maps depict location and type of BMP	*Spring 2020*

Activity 2: *Before/after monitoring of test and control alley to determine runoff capture* **Budget: $74,859**
Paired watershed study evaluates amount of runoff flowing down alleys before/after implementation of BMPs. Test alley has BMPs installed following sufficient collection of "before" data, control alley does not. Monitoring equipment installed in existing storm sewer inlet (if one exists in alley) or in channel drain system installed at the base of the alley. Three years of monitoring are required to obtain sufficient data before and after implementation of BMPs. Work performed by Short Elliott Hendrickson Inc. (SEH), a consulting engineering firm.

Outcome	Completion Date
1. Identify 1 control, 1 test alley for study. Selection based on similarity of drainage area	*Fall 2017*
2. Installation/maintenance of monitoring equipment (2 sites, 3 years)	*June 2021*
3. Report documenting runoff capture before and after implementation of BMPs	*July 2021*

Activity 3: *Environmental education at Patrick Henry promotes green infrastructure jobs* **Budget: $9,430**
Project Lead the Way (PLTW) promotes up close relevant experiences that lead to lifelong interest in science, math & engineering. Building on existing PLTW curriculum at Patrick Henry High School we focus on citizen science monitoring and design of BMPs to engage students in learning about their neighborhood (many live in Cleveland) and career pathways. May integrate with school forest restoration or BMP design for the high school.

Outcome	Completion Date
1. 40-60 students over 2 years assist in design of BMPs & monitoring of test/control alleys	*Spring 2019*
2. Final student report, annually, detailing lessons learned and knowledge gained	*2018-2019*

III. PROJECT STRATEGY

A. Project Team/Partners

Cleveland Neighborhood Association (*receiving money*): Project development, admin, outreach, & promotion
Metro Blooms (*receiving money*): Project development, management, engagement, consultations, design, construction management & oversight, Project Lead the Way education
SEH (*receiving money*): Development and implementation of stormwater monitoring; paired watershed study
Shingle Creek Watershed Management Commission (SCWMC) (*contributing money*): Technical expertise
Hennepin County (*contributing money*): 2016 raingarden project & initial alley engagement & demonstration
Patrick Henry High School *(no money exchange)*: Staff facilitate Project Lead the Way partnership/activities

B. Project Impact and Long-Term Strategy

Hennepin County (approved) and the SCWMC (pending) have invested in a demonstration Blooming Alley and engagement in Cleveland. Runoff and pollutant reductions address storm sewer overflows and reduce algae blooms in Crystal Lake, sustaining recreational use and aquatic habitat and helping meet the goals of the TMDL Implementation Plan (need overall external load reduction of 317 lbs/year Total Phosphorus). Enhanced native habitat ensures longevity of pollinator species and creates connections between a built urban environment and Theodore Wirth Park. While the Blooming Alleys approach has gained popularity in Minneapolis, actual results are not documented. A paired watershed study provides statistically supported documentation on BMP value. Results influence decision and policy makers, leading to integrative adaptive management of runoff from alleys, and are shared broadly through MB and Blue Thumb. Our approach yields high levels of engagement and adoption, leading to resilient communities and long-term improvement of natural resources. Lastly, Project Lead the Way activities reveal college and career pathways for students and promote environmental stewardship.

C. Timeline Requirements

4-year project (July 2017-July 2021); 4th year only necessary if adequate data is not acquired during years 2-3.

2017 Detailed Project Budget

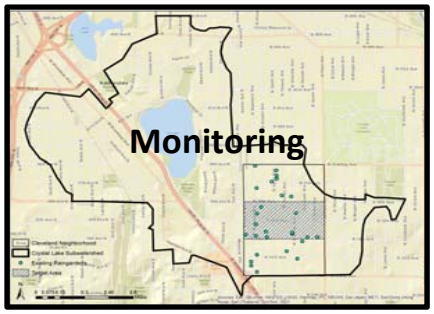
Project Title: *North Minneapolis Blooming Alleys: Resilient Neighborhoods, Clean Water*

IV. TOTAL ENRTF REQUEST BUDGET *3* **years**

BUDGET ITEM *(See "Guidance on Allowable Expenses", p. 13)*	**AMOUNT**
Personnel: Community Organizer, Ariah Fine: Project & contract administration, Alley Captain outreach, neighborhood engagement (.25 FTE for 3 years, 88% salary, 12% benefits)	$ 35,000
Professional/Technical/Service Contracts: Project Manager, Laura Scholl, Metro Blooms provides coordination, assistance with outreach & engagement, project oversight, scheduling, and participant communication	$ 20,000
Professional/Technical/Service Contracts: In addition to project management, Metro Blooms provides assistance with outreach & engagement, leads Alley Parties, provides technical assistance through site consultations, stormwater management plans, designs, construction management & oversight, and works with Patrick Henry High School to plan and lead Project Lead the Way activities. *(Activities 1 & 3)*	$ 64,200
Professional/Technical/Service Contracts: Permeable pavement installations subcontracted to trained landscape contractor (J.L. Theis or Blue Thumb partner; estimate 25 projects) *(Activitiy 1)*	$ 87,000
Professional/Technical/Service Contracts: Conservation Corps of Minnesota for raingarden and native planting installation (oversight by Metro Blooms; estimate 20 raingardens, 15 native plantings) *(Activity 1)*	$ 10,500
Professional/Technical/Service Contracts: Gutter installation & downspout extension/re-direction subcontracted to trained landscape contractor (neighborhood contractor TBD) *(Activity 1)*	$ 6,000
Professional/Technical/Service Contracts: Short Elliott Hendrickson Inc (SEH) engineering firm for paired-watershed study. Includes development, QA/QC, system design, installation, equipment, field visits, data collection, review & summation, analysis and final report *(Activity 2)*	$ 74,859
Equipment/Tools/Supplies: Native plant supplies *(Activity 1)*	$ 6,500
Equipment/Tools/Supplies: Landscape supplies (compost, mulch) & soil disposal *(Activity 1)*	$ 3,150
Equipment/Tools/Supplies: Education and outreach materials - includes signage for each alleyway, educational materials for events, outreach and promotional materials. Also includes printing costs for semi annual reporting and invoicing *(Activity 1)*	$ 5,000
Travel: 2,000 miles over 3 years @ .54/mile. Mileage for outreach/engagement, site consultations & installation ($850), and Project Lead the Way activities ($230) *(Activities 1 & 3)*	$ 1,080
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND $ REQUEST =	$ 313,289

V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

SOURCE OF FUNDS	**AMOUNT**	**Status**
Other Non-State $ To Be Applied To Project During Project Period: *Shingle Creek Watershed Management Commission Partnership Cost Share Program*	$ 50,000	Pending application
Other Non-State $ To Be Applied To Project During Project Period: *Hennepin County Stewardship Grant*	$ 20,000	Pending application
Other Non-State $ To Be Applied To Project During Project Period: *Property owners that make a financial contribution*	$ 3,500	Pending
Other State $ To Be Applied To Project During Project Period: *n/a*	$ -	n/a
In-kind Services To Be Applied To Project During Project Period: *Property owner contribution through volunteer labor (if property owners can't commit financially to project they can volunteer their contribution through outreach, planting raingardens, etc.)*	$ 3,500	Pending
Funding History: Shingle Creek Watershed Management Commission for Blooming Alleys engagement and demonstration installation	$ 17,000	Pending (application submitted)
Funding History: Hennepin County for Cleveland Neighborhood of Raingardens project and Blooming Alleys engagement	$ 10,000	Secured
Remaining $ From Current ENRTF Appropriation: *n/a*	$ -	*Indicate: n/a*



5 Alleyways
- 40-60 stormwater BMPs
-150-250 citizens directly engaged

Why?
Street flooding
Crystal Lake impairment
Pollinator Path to park
Resilient community

Outcomes:
2.5 lbs Phosphorus
850,000 gallons runoff
500 lbs sediment

Paired Watershed Study
- 1 test alley with BMPs, 1 control alley without
-Monitor before & after install

Why?
Statistically supported documentation of success

Outcomes:
Influence alley infrastructure & adaptive management policy

Patrick Henry High School
- Applied engineering through design & monitoring
- 40-60 students engaged

Why?
Hands-on project in students' neighborhood reveals college & career pathways

Outcomes:
Students engage in neighborhood, become environmental stewards

Cleveland Neighborhood Association (CNA) is the main applicant on this proposal. Project partner Metro Blooms manages the project. Metro Blooms, a 30 year-old, Minneapolis based nonprofit, has a strong history of implementing successful citizen based education and engagement projects which encourage property owners to take action on their own property to improve water quality. CNA and Metro Blooms have a long-standing partnership to educate & engage citizens in the installation of stormwater management projects throughout the neighborhood.

Organization Description

The Cleveland Neighborhood Association works to connect neighbors with each other, with resources and opportunities, and to ensure they have a voice in decisions that will impact their community. We do this through several key initiatives, resident-driven committees, and collaborative work with other Northside neighborhoods and community partners.

To connect residents with each other we do significant outreach through direct engagement by doorknocking, hosting block parties, and building relationships with residents to increase our community's network and social capital of residents. We actively engage residents to assess both the assets they are able to bring to the community and opportunities to utilize their skills and abilities to contribute to the community. We also serve as a connection point for residents to direct them to resources with our collaborative partners when in need.

Additionally, we actively work to ensure residents voices are heard on community decisions. Often residents are the last to know about a development or community decision and the way "community engagement" is done rarely engages those most impacted and often least represented when decisions are made. We take a pro-active approach to development opportunities and ensure the community is able to cast a vision for their neighborhood rather than only reacting to developers and outside agencies plans. It is through this sort of engagement that we identified both the value of environmental initiatives and the need to address stormwater runoff in our community, and why we began to pursue raingarden projects.

Project Manager Qualifications

Laura Scholl, Environmental Project Director, Metro Blooms serves as project manager. Laura has a Bachelor of Science in Fisheries, Wildlife & Conservation Biology from the University of Minnesota and a minor in Spanish Studies. She began working with Metro Blooms in 2012 as a Minnesota GreenCorps Member. Following her year as a GreenCorps volunteer she became a full time Project Manager at Metro Blooms. In August 2015 she was promoted to Environmental Project Director.

In her tenure at Metro Blooms Laura has worked with each of their education, installation and maintenance programs. She has expanded their Blooming Schoolyards classroom education program to more than 15 schools throughout the metro and adapted the program to serve all ages of middle school and elementary students. She has led more than 15 community-based installation projects in partnership with 50+ local government and community organizations through Metro Blooms' Neighborhood of Raingardens and Blooming Alleys programs. Under Laura's guidance the Blooming Alleys program has expanded from one block near Lake Nokomis to 25 alleys throughout southwest Minneapolis. These projects are supported by an array of funding partners including the Clean Water Fund, watershed districts, Hennepin County, the City of Minneapolis, a number of neighborhood and community associations, and the Center for Prevention at Blue Cross Blue Shield Minnesota. Laura manages projects, including development, engagement, installation, reporting, and follow-up.